

# QUIET PC COMPONENTS

## INTRODUCTION

Today's computers are faster than ever, but the downside of this power is that modern PC components generate a lot of heat. These components usually rely on fans to keep them cool, but fans generate a lot of noise. This isn't a problem if you're playing games, as your headphones or speakers will drown out the noise, but it's annoying if you're working in an otherwise quiet room.

Fortunately, there are plenty of simple upgrades that can help reduce the amount of noise produced by your PC. High-quality fans make less noise, and more efficient power supplies produce less heat and require less cooling. Efficient processor coolers can dissipate more heat with less noise. This month we've gathered together 25 products designed to keep your PC quiet, and tested the noise produced by each one. We'll help you find the best way to keep your PC's noise at bay.

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Components and handhelds expert

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The more powerful your PC, the more noise it will produce. But help is at hand. These 25 components will reduce that unwanted PC racket to a whisper

# SILENCE YOUR PC



## Choosing... Quiet PC Components

**T**here are no benefits to having a noisy PC. A quiet PC is less intrusive, can be used for playing media files without ruining your music or film and can be left downloading in a bedroom overnight without disturbing your sleep.

Although you can build a completely silent PC from scratch, most people will want to turn an existing computer into one that makes less noise. This guide will explain what you can do to quieten a normal PC effectively without breaking either it or the bank.

### COOL RUNNINGS

The standard coolers included with Intel and AMD processors are quieter than they used to be, but if you're serious about keeping your PC quiet you will need a specialist CPU cooler or heatsink.

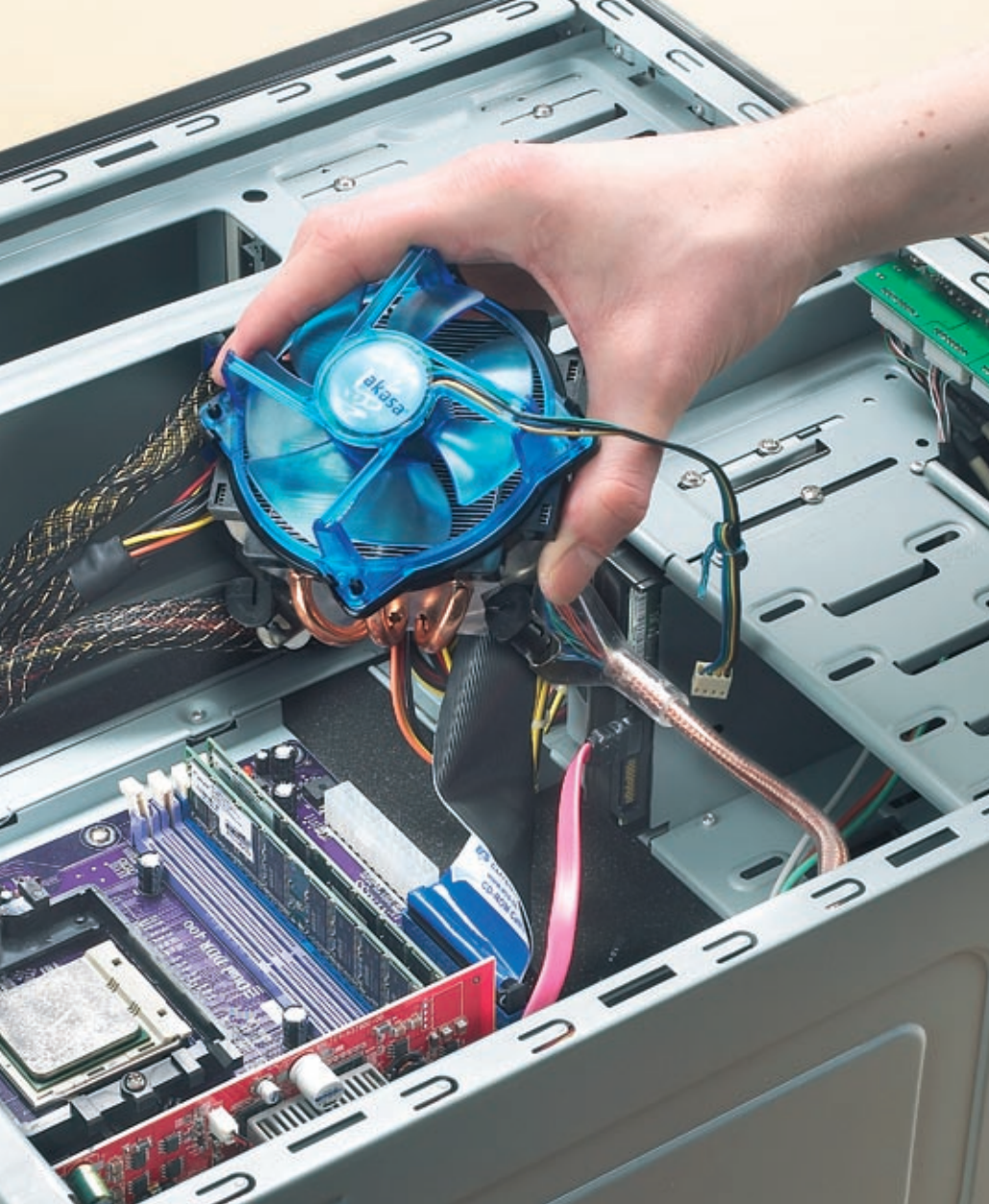
Which cooler you buy is dependent on which socket type your motherboard has. AMD Socket 754 and 939 motherboards have identical cooler mountings, so they can share the same heatsinks, but Intel Socket 478 and 775 boards have different mountings. Some coolers are made in different versions for different sockets, while others include several fitting kits in the box.

All modern motherboards can be set in the BIOS to adjust processor fan speeds automatically depending on the processor's temperature, so they will run more slowly and generate less noise when your computer is idle. Noctua's NH-U12 is large enough to keep a PC stable even without a fan when word processing or surfing the internet, but anything more demanding needs a fan's extra cooling.

### SILENT POWER

The first thing you should consider when buying a new PSU is how much power you need. A 500W power supply will suffice for most PCs, but if you have cutting-edge graphics and several hard disks installed you may want the extra power of a 600W supply. Two of the power supplies in this month's test can supply 500W of power and the Enermax Noisetaker provides 600W, but the Nesteq Semi-Fanless unit can supply a huge 620W.

You should also check that the number of connectors the supply has matches the components you need to power or may install in future. Our reviews explain how many of each type of plug are provided by each supply.



Power supplies also vary in how they cool themselves and your PC. Three of the supplies have fans mounted on the bottom to draw hot air away from your motherboard. All the fans will also vary their fan speed according to load and temperature, and Enermax and Neteq have provided manual override controls for fan speed.

### YOUR BIGGEST FAN

Your power supply's fan doesn't provide enough cooling for a modern PC, so you will also need at least one dedicated case fan. These are available in two sizes: 80mm and 120mm. Most cases have fittings for both, but some can accommodate only one or the other. The 120mm fans in our

test were louder than the 80mm fans, but they provide much more cooling.

Most modern motherboards have an option in the BIOS to adjust case fan speeds automatically depending on system temperature, so they will run efficient 120mm fans slower, cutting noise greatly. Some fans can also be regulated using a switch, resistor or built-in temperature sensor.

### TAKING IT FURTHER

Once you have chosen and fitted your basic cooling components, you'll find there are many accessories available to make your noise levels even better. See page 126 for some ideas on how to make your computer quieter still.

## How we test Quiet PC components

These days, many manufacturers noise-rate their components, but these figures are for isolated parts at 1m distance. We wanted to measure noise in a real PC, which can create turbulence and amplify vibrations, at a realistic distance. Our test setup was an Athlon 64 PC with a standard AMD cooler, a generic power supply and 80mm case fan. We substituted each of our test components and measured the PC's noise level. We then turned the PC off to measure background noise and calculated the difference to produce our

quoted PC noise levels in decibels (dB). Lower values mean a quieter PC.

Socket 775 heatsinks were fitted to a Socket 775 motherboard in an otherwise identical test PC. A motherboard's automatic fan speed controller will lower the speed of a CPU or case fan when the temperature drops. To keep results consistent, we disabled all such speed controls, so the noise levels quoted are the worst you should encounter. We tested the fans with speed selectors or inline resistors at their maximum speed.

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### Other Components

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**ZALMAN ZM-MFC1 Fan Speed Controller**

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## ANTEC Neo HE 500

★★★★★

£72 inc VAT



Antec's Neo 500 is a good-value power supply with a well-designed cable system. It's not as quiet as Enermax's Liberty 500W, however, and it doesn't have as many standard connectors. Its matt grey finish is not particularly exciting, either.

Modern power supplies need to have a vast number of different cables and connectors. This creates the problem of what you should do with all the connectors and cables that aren't plugged into anything. Antec's Neo HE 500 gets around this by letting you detach cables you don't need. The only fixed cables are the ATX and auxiliary motherboard power cables, so the SATA, PCI Express and Molex cables can be plugged in as required. The cables are supplied in a plastic bag, and you'll need to keep any spares somewhere safe in case you upgrade in future.

The Neo HE 500 has fewer Molex and SATA connectors than the Liberty 500W, but there are still two six-pin PCI Express plugs for SLI or Crossfire graphics cards and room for up to four SATA hard disks. The Neo's fan design is different from the other PSUs in the group as there is no fan mounted on the bottom.

The Neo HE 500 doesn't sound noisy in operation, but it wasn't quite as quiet as the other power supplies here. It produced 8.28dB, making it marginally the loudest of the four. The Antec Neo HE 500's cable system will keep your case tidy and it's hardly noisy, but the slightly cheaper Enermax Liberty 500W has better cooling and more connectors.

### SUMMARY

- ✓ Well-designed cable system
- ✓ Good value
- ✗ Rear-mounted fan only

500W POWER SUPPLY 1x 80mm fan, 8.28dB PC noise.  
CONNECTORS 1x 20/24-pin ATX, 2x 4-pin auxiliary motherboard power, 2x 6-pin PCI Express, 6x 4-pin Molex, 2x floppy, 4x SATA  
SUPPLIER [www.kikatek.com](http://www.kikatek.com)  
DETAILS [www.antec.com](http://www.antec.com)

## ENERMAX Liberty 500W

★★★★★

£70 inc VAT



Enermax's Liberty 500W has the same modular cable system as Antec's Neo 500, but it has more connectors and is slightly quieter.

Like the Neo HE 500, the Liberty 500W allows you to plug in only the power cables you need when wiring up your PC. This makes for a tidier case and less chance of obstructing your PC's airflow. You're unlikely to run out of connectors when using the Liberty 500W, as it has a large number of different power cables. These are packaged in a handy case for storage. It includes two PCI Express plugs for twin SLI or Crossfire graphics cards, eight Molex and eight SATA power connectors, the standard 20- or 24-pin ATA connector and two four-pin motherboard auxiliary plugs.

The Liberty 500W has a 120mm fan on the bottom of the unit. This draws air over the motherboard and main components and out of the case, so it helps to dissipate hot air more effectively than a rear-mounted fan. The PSU is also ideal for anyone who likes their PC's components on display, as the gloss black finish, translucent fan blades and golden fan guard look smart and expensive.

The Liberty 500W is slightly quieter than Antec's Neo HE 500, with a noise level of 8.07dB in our test. It's not as quiet as the Enermax Noisetaker or Neteq Semi-Fanless, but it is good value for such a well-designed unit. Unless you have a powerful gaming PC that requires a 600W power supply, this is an impressive and inexpensive choice.

### SUMMARY

- ✓ Plenty of power connectors
- ✓ Bottom-mounted fan
- ✓ Looks expensive

500W POWER SUPPLY 1x 120mm fan, 8.07dB PC noise.  
CONNECTORS 1x 20/24-pin ATX, 2x 4-pin motherboard auxiliary power, 2x 6-pin PCI Express, 8x 4-pin Molex, 2x floppy, 8x SATA  
SUPPLIER [www.scan.co.uk](http://www.scan.co.uk)  
DETAILS [www.enermax.com.tw](http://www.enermax.com.tw)

## ENERMAX Noisetaker 600W

★★★★★

£93 inc VAT



Despite its twin fans, Enermax's Noisetaker 600W is the second-quietest PSU in the group. It doesn't have as many connectors as the Antec Neo 500 or Enermax Liberty 500W supplies, but it is good value for such a powerful and quiet supply.

Even if you have two graphics cards and more than one hard disk, you probably won't need a 600W power supply. However, if also you have several optical drives and a RAID array, a 600W supply would make sense.

The Noisetaker 600W does without the modular cable design of the Liberty 500W and Neo HE 500, so you'll need to find somewhere to put the cables you're not using. However, if you need a 600W power supply, you'll probably have most of them plugged in. The Noisetaker has just four SATA power connectors, compared to the Liberty 500W's eight.

Instead of a single 120mm fan, the Noisetaker 120W has a 90mm fan on the bottom and an 80mm fan at the rear. Enermax claims that this twin-fan system is recommended by AMD, and having two fans to pull air over your components and out of the case is good for cooling.

You can adjust the 80mm fan's speed automatically depending on temperature or do it manually using a small knob at the back. With the fan left in automatic mode this was the second quietest PSU in the group, with a noise level of 6.73dB. Enermax's Noisetaker 600W may not be as quiet as Neteq's 600W supply, but it is far cheaper and very powerful.

### SUMMARY

- ✓ Very quiet
- ✓ Powerful
- ✓ Good value

600W POWER SUPPLY 1x 80mm fan, 1x 90mm fan, 6.73dB PC noise.  
CONNECTORS 1x 20/24-pin ATX, 1x 6-pin motherboard auxiliary power with 4-pin adaptor, 2x 6-pin PCI Express, 7x 4-pin Molex, 2x floppy, 4x SATA  
SUPPLIER [www.microdirect.co.uk](http://www.microdirect.co.uk)  
DETAILS [www.enermax.com.tw](http://www.enermax.com.tw)

## NESTEQ Semi-Fanless 620W

★★★★★

£140 inc VAT



Nesteq's Semi-Fanless 620W power supply is as close as you can get to a silent power supply in a desktop PC, but it's very expensive.

The Semi-Fanless 620W produces a huge amount of available power, and is frighteningly heavy. It has a similar number of connectors to Enermax's Noisetaker 600W, but it comes with an eight-pin motherboard power connector as needed by some Intel motherboards as well as a four-pin motherboard power plug. There are two six-pin PCI Express connectors, eight four-pin Molex plugs and four SATA power leads.

Nesteq describes this power supply as semi-fanless. There's a single 120mm fan on the bottom, but Nesteq claims that this will spin for only one per cent of the time to dissipate heat. During our tests the fan started spinning every three minutes or so, and for just a few seconds at a time.

The fact that the fan was hardly ever running contributed to the PSU's impressive result in our noise test. We recorded a noise level of just 5.93dB, making it easily the quietest in the group. If you want more cooling at the expense of quietness, you can override the automatic fan controller using a knob on the rear of the supply.

Making such a powerful power supply with near-passive cooling is an incredible achievement, and this is a very desirable PSU. It's extremely expensive, though. Unless you're determined to build the quietest PC possible, we'd recommend buying the Noisetaker 600W, which is cheaper and almost as quiet.

### SUMMARY

- ✓ Very powerful
- ✓ Practically silent
- ✗ Shockingly expensive

620W POWER SUPPLY 1x 120mm fan, 5.93dB PC noise.  
CONNECTORS 1x 20/24-pin ATX, 1x 4-pin motherboard auxiliary power, 1x 8-pin motherboard auxiliary power, 2x 6-pin PCI Express, 8x 4-pin Molex, 2x floppy, 4x SATA  
SUPPLIER [www.quietpc.com](http://www.quietpc.com)  
DETAILS [www.neteq.de](http://www.neteq.de)

# QUIET PC COMPONENTS: CPU COOLERS

## AKASA Cool Blue

★★★★★

£20 inc VAT

Akasa's Cool Blue CPU cooler uses standard Socket 775 mounting clips, so you don't need to modify your motherboard. The heatsink is also relatively compact and the fan doesn't obstruct the clips, so attaching and removing it is easy. The fan is fitted with a blue LED that might appeal if you have a transparent PC case and want to show off.

The Cool Blue is also a very effective cooler. When using a stock Intel Socket 775 cooler, our test PC's CPU ran at 62°C at idle and 66°C under load. The Akasa Cool Blue brought this down to 55°C and 58°C respectively, making it the second-most effective cooler in the group.

Our test PC had a noise level of 13.55dB with this cooler fitted. This isn't bad, but it pales in comparison to the 8.59dB produced by the Arctic Cooling Freezer 7 Pro. If you value ease of fitting highly, this is a good choice, but otherwise we recommend the Freezer 7 Pro.

SOCKET 775 COOLER 80mm fan, 3,400rpm spin speed, 13.55dB PC noise, height 66mm

SUPPLIER [www.overclockers.co.uk](http://www.overclockers.co.uk)

DETAILS [www.akasa.com.tw](http://www.akasa.com.tw)

✓ Effective cooling and easy to fit

✗ Not especially quiet



## ARCTIC COOLING Freezer 7 Pro

★★★★★

£15 inc VAT



Arctic Cooling's Freezer 7 Pro is the cheapest Socket 775 cooler in the group, but it is also extremely cool and quiet. It uses standard Socket 775 mounting clips, but fitting the cooler is not particularly easy. The 90mm fan is clipped to the front of the heatsink, and its casing obstructs the front two mounting clips. The housing is also quite brittle, so you must be careful not to put pressure on it when fitting the cooler.

Once we had the Freezer 7 in place, though, it performed superbly. The idle processor temperature dropped from 62°C to 47°C compared to our standard heatsink, and the Freezer 7 Pro reduced load temperature from 66°C to 54°C. It is also extremely quiet, with a noise level of just 8.59dB. It's cheap, effective and quiet, and deserves our Best Buy award.

SOCKET 775 COOLER 90mm fan, 2,500rpm spin speed, 8.59dB PC noise, height 126mm

SUPPLIER [www.scan.co.uk](http://www.scan.co.uk)

DETAILS [www.arctic-cooling.com](http://www.arctic-cooling.com)

✓ Extremely quiet; excellent cooling

✗ Tricky to fit



## COOLER MASTER Hyper L3

★★★★

£22 inc VAT

Cooler Master's Hyper L3 has a similar design to Akasa's Cool Blue, but its larger 92mm fan spins at a slower 2,800rpm. The cooler is larger than the Cool Blue, but is still easy to fit as the fan housing has cutouts at each corner that allow easy access to the Socket 775 mounting pins.

The Hyper L3's cooling performance was similar to the Cool Blue. It kept our test processor at 56°C when idle and 59°C under load, an improvement of 6°C and 7°C over the standard cooler. Despite its slower fan, it was slightly noisier and our test PC's volume was 13.90dB with this cooler fitted, compared to 13.55dB when using Akasa's Cool Blue.

Cooler Master's Hyper L3 is almost identical to Akasa's Cool Blue in terms of cooling performance and noise level. It provides effective cooling, but both the Cool Blue and the Freezer 7 are cheaper and quieter.

SOCKET 775 COOLER 92mm fan, 2,800rpm spin speed, 13.90dB PC noise, height 68mm

SUPPLIER [www.komplett.co.uk](http://www.komplett.co.uk)

DETAILS [www.cooler-master.co.uk](http://www.cooler-master.co.uk)

✓ Well designed and easy to fit

✗ Fairly noisy



## GLACIALTECH Igloo 7200 Light

★★★★★

£9 inc VAT

BUDGET BUY  
£  
COMPUTER SHOPPER  
The other Socket 939 coolers in

the group cost over £30, but GlacialTech's Igloo 7200 Light costs under £10. Its design is similar to the standard AMD heatsink, but it has a larger 80mm fan.

The cooler is even easier to fit than AMD's standard cooler. The heatsink uses the standard Socket 754 or 939 heatsink mounting, and you just have to attach one side and push the other into place using the large lever.

Cooling performance is reasonable and certainly better than Akasa's Evo 120, but it didn't keep our test processor as cool as the more expensive Noctua cooler. Our PC ran at 62°C when idle and 65°C under load, which is still cool enough to remain stable.

The Igloo 7200 is also reasonably quiet. It can't match the Noctua heatsink, but with a noise level of 13.20dB it is quieter than Akasa's Evo 120. It's an excellent cooler for the price.

SOCKET 754/939 COOLER 80mm fan, 1,900rpm spin speed, 13.20dB PC noise, height 60mm

SUPPLIER [www.pcnextday.co.uk](http://www.pcnextday.co.uk)

DETAILS [www.glacialtech.com](http://www.glacialtech.com)

✓ Very cheap; simple installation

✗ Average cooling performance



## AKASA Evo 120

★★★★

£35 inc VAT

Like Noctua's NH-U12, Akasa's Evo 120 is a huge heatsink that may not fit in every PC case. It looks ungainly, as the top of the heatsink is suspended above its base by three copper legs and the top of the cooler sits at an awkward angle. Installing the Evo 120 in a Socket 939 or 754 system is simple, as you just remove the standard heatsink mounting and screw the Evo 120 directly to the motherboard. Socket 478 and 775 installation is harder as you have to attach a backplate to your motherboard. This involves taking apart your PC if you are not building a new system.

Despite its large 120mm fan, the Evo 120 was the loudest Socket 939 cooler in the group with a noise level of 13.71dB. It comes with a fan speed controller but even with the fan speed at maximum cooling, performance was mediocre; our Socket 939 system ran at 70°C when idle and 71°C under load. The Igloo 7200 Light is more effective, cheaper and quieter.

SOCKET 939/754/775/478 COOLER 120mm fan, 2,000rpm spin speed, 13.71dB PC noise, height 156mm

SUPPLIER [www.thecoolingshop.com](http://www.thecoolingshop.com)

DETAILS [www.akasa.com.tw](http://www.akasa.com.tw)

✓ Speed controller included

✗ Mediocre cooling and not especially quiet



## NOCTUA NH-U12

★★★★★

£43 inc VAT

Like the Evo 120, fitting the Noctua NH-U12 cooler to a Socket 939 or 754 motherboard involves removing the standard mounting and screwing the cooler to the exposed screw holes. If you have a Socket 478 or 775 system, you'll have to remove the motherboard and attach a mounting bracket.

The NH-U12 does not come with a fan, so you need to supply your own. It comes with four metal clips to mount a 120mm fan on each side of the cooler to push and pull air over the heatsink for extra cooling. We tested it on its own and with a single 120mm fan.

Without any fans, the processor was stable when idling at 68°C, but under load the temperature climbed to 81°C and the PC crashed. With the fan fitted, cooling was much better, with the processor running at 54°C when idle and 61°C under load. The cooler is also very quiet, bringing our test PC's noise level to just 8.43dB with the fan and 7.18dB without a fan. It's very quiet but very expensive.

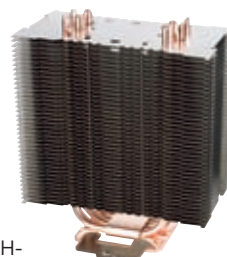
SOCKET 939/754/775/478 COOLER Accepts up to 2x 120mm fans, 8.43dB PC noise, height 155mm

SUPPLIER [www.quietpc.com](http://www.quietpc.com)

DETAILS [www.noctua.at](http://www.noctua.at)

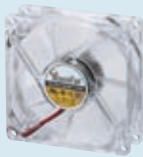
✓ Very quiet and good cooling performance

✗ Very expensive



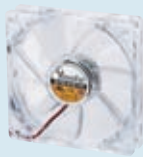
80mm case fans



| MANUFACTURER   | ACOUSTI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ANTEC                                                                              | COOLER MASTER                                                                      | COOLER MASTER                                                                       | VANTEC                                                                               | VANTEC                                                                               |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Model          | AcoustiFan C-series 80mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | TriCool 80mm                                                                       | LED Silent TLF-S82-EB                                                              | Sleeve SAF-S82 80mm                                                                 | Stealth 80mm                                                                         | Thermoflow 80mm                                                                      |
| Rating         | ★★                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ★★★★★                                                                              | ★★★★★                                                                              | ★★★                                                                                 | ★★★★                                                                                 | ★★★                                                                                  |
| Price inc VAT  | £5.88                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | £6.10                                                                              | £4.14                                                                              | £3.47                                                                               | £5.87                                                                                | £5.18                                                                                |
| Review         | <p>Acousti's 80mm C-series has the second-lowest air throughput in the group, moving 25.4cf/m, but it is still fairly noisy. With this fan fitted, our test PC had an average noise level of 8.53dB, which puts it near the bottom of the group. Fitting the supplied inline resistor cable brings the noise level down to 7.12dB, but the throughput drops to just 9.7cf/m. Whether you're looking for cooling or low noise, there are better buys.</p> <p>Antec's 80mm TriCool fan has a speed control switch. This lets you manually adjust its speed settings, but you have to reach inside the PC case to do so. Our test PC had a noise level of 7.39dB with the TriCool fitted and running at maximum speed, making it one of the quieter fans here. Its 34.0cf/m air throughput is the second-highest in the group. An ideal compromise between effective cooling and low noise.</p> <p>The Cooler Master LED Silent's blue LED makes it ideal for building an ostentatious, or just very blue, PC. The fan's air throughput is just 22.8cf/m, so it's not ideal for a hot PC, but it is very quiet. Our test PC's noise level was just 6.18dB with this fan fitted, and it is also the second-cheapest 80mm case fan in the group. If you need the quietest PC possible and don't have hot, high-end components, this is the fan to buy.</p> <p>Cooler Master's Sleeve 80mm is a simple no-frills fan without a speed controller or LED lighting, and is also the cheapest 80mm fan in the group. Its air throughput figure of 32.11cf/m is the third-highest, but it considerably upped the volume of our test PC to 9.46dB, making it the second-loudest fan. Antec's Tri-Cool has better cooling and Cooler Master's LED Silent is quieter, so it's worth spending a little more.</p> <p>Unlike Vantec's Thermoflow, the Stealth fan doesn't have a built-in temperature sensor to control its fan speed. Instead, it relies on standard ball bearings to keep noise down. Its air throughput figure is an unremarkable 27.0cf/m, but the Stealth was the second-quietest fan in the group. It recorded a PC noise level of 6.72dB in our tests. If you need a quiet fan but can't stand the Cooler Master LED Silent's gaudy lighting, this is a good buy.</p> <p>Most fans rely on the motherboard or an external fan controller to control how fast they spin, but Vantec's Thermoflow has its own built-in temperature sensor instead. At maximum speed, the fan has a huge air throughput of 41.6cf/m but it was loud even when our test PC was at idle, bringing the PC's noise level up to 10.33dB. The fan is reasonably good value, but the Cooler Master LED and Antec Tri-Cool fans are far quieter.</p> |                                                                                    |                                                                                    |                                                                                     |                                                                                      |                                                                                      |
| Spin speed     | 2,000rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2,600rpm                                                                           | 1,800rpm                                                                           | 2,500rpm                                                                            | 2,050rpm                                                                             | 1,950-3,400rpm                                                                       |
| Air throughput | 25.4cf/m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 34.0cf/m                                                                           | 22.8cf/m                                                                           | 32.11cf/m                                                                           | 27.0cf/m                                                                             | 23.8-41.6cf/m                                                                        |
| Extras         | Inline resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3-speed switch                                                                     |                                                                                    |                                                                                     |                                                                                      | Temperature sensor                                                                   |
| PC noise       | 8.53dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 7.39dB                                                                             | 6.18dB                                                                             | 9.46dB                                                                              | 6.72dB                                                                               | 10.33dB                                                                              |
| Supplier       | www.quietpc.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | www.morecomputers.co.uk                                                            | www.buzzmemory.com                                                                 | www.eclipsecomputers.com                                                            | www.dabs.com                                                                         | www.dabs.com                                                                         |
| Details        | www.acoustiproductions.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | www.antec.com                                                                      | www.coolermaster.co.uk                                                             | www.coolermaster.co.uk                                                              | www.vantec.com.tw                                                                    | www.vantec.com.tw                                                                    |
|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |  |

120mm case fans



| MANUFACTURER   | ACOUSTI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ACOUSTI                                                                             | AKASA                                                                               | ANTEC                                                                                | COOLER MASTER                                                                         | GLACIALTECH                                                                           |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Model          | AcoustiFan C-series 120mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | AcoustiFan DustPROOF 120mm                                                          | Amber Series AK-183-L2B 120mm                                                       | TriCool 120mm                                                                        | LED Silent TLF-S12-EB                                                                 | SilentBlade 1225                                                                      |
| Rating         | ★★★                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ★★★★                                                                                | ★★★★                                                                                | ★★★★★                                                                                | ★★★★★                                                                                 | ★★★★★                                                                                 |
| Price inc VAT  | £9.41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | £18.80                                                                              | £8.60                                                                               | £9.15                                                                                | £7.04                                                                                 | £7.18                                                                                 |
| Review         | <p>The 120mm C-series fan has a decent air throughput of 50.0cf/m, but it's fairly noisy. Fitting this fan brought our test PC's noise level up to a noticeable 12.81dB, which was only slightly quieter than the highest level recorded. Using the supplied inline resistor cable cut the volume to 9.54dB, but this reduces the air throughput to 41.8cf/m. The Antec Tri-Cool is quieter on its medium setting and has better cooling performance.</p> <p>Acousti's DustPROOF range is designed to keep dust out of the motor assembly and bearings. This prolongs the fan's lifespan, which Acousti claims is up to seven years of continuous operation. The DustPROOF fan has the second-highest air throughput of 56.3cf/m, and a noise level of 9.88dB makes it the third-quietest 120mm fan in the group. It gives an excellent balance between noise and cooling performance, but it is extremely expensive.</p> <p>While Cooler Master's LED silent fans use coloured lights, Akasa's 120mm Amber fan has reasonably tasteful translucent amber blades. The fan comes in the middle of the group in terms of air throughput and noise produced, with 44.8cf/m and 10.81dB. It pushes only slightly more air than Cooler Master's LED Silent 120mm, though, and it is significantly louder. The LED Silent is a better option for building a quiet PC.</p> <p>Antec's Tri-Cool 120mm has a fan speed selection switch. With the switch on the maximum speed setting, the fan has a huge air throughput of 79.0cf/m, which is easily the largest in the group. At this setting, however, the fan is also very noisy, taking our test PC's noise level up to 13.35dB. Setting the switch to the medium level results in an impressive 56cf/m and 8.95dB, giving an excellent balance between cooling and noise.</p> <p>Cooler Master's 120mm LED Silent fan spins at just 1,220rpm, and our test PC produced just 8.28dB of noise with it fitted. Even though it is the quietest fan in the group, its air throughput of 42.7cf/m is still reasonable considering how little noise it makes. Its somewhat gaudy LED lighting may not be to everyone's taste, and it isn't as versatile as Antec's Tri-Cool, but this is still a good choice for a quiet PC.</p> <p>With by far the slowest spin speed in the group, you would expect GlacialTech's SilentBlade to be quiet. Our test PC's noise level was just 8.54dB with this fan fitted. Unfortunately, its cooling performance is not as good as the other fans in the group, with an air throughput figure of just 37cf/m. Cooler Master's LED Silent is quieter, and Antec's Tri-Cool has better cooling performance.</p> |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
| Spin speed     | 2,000rpm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,500rpm                                                                            | 1,400rpm                                                                            | 2,000rpm                                                                             | 1,220rpm                                                                              | 950rpm                                                                                |
| Air throughput | 50.0cf/m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 56.3cf/m                                                                            | 44.8cf/m                                                                            | 79.0cf/m                                                                             | 42.7cf/m                                                                              | 37cf/m                                                                                |
| Extras         | Inline resistor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                     |                                                                                     | 3-speed switch                                                                       |                                                                                       |                                                                                       |
| PC noise       | 12.81dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 9.88dB                                                                              | 10.81dB                                                                             | 13.35dB                                                                              | 8.28dB                                                                                | 8.54dB                                                                                |
| Supplier       | www.quietpc.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | www.quietpc.com                                                                     | www.specialtech.co.uk                                                               | www.morecomputers.co.uk                                                              | http://uk.insight.com                                                                 | www.pcnextday.co.uk                                                                   |
| Details        | www.acoustiproductions.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | www.acoustiproductions.com                                                          | www.akasa.com.tw                                                                    | www.antec.com                                                                        | www.coolermaster.co.uk                                                                | www.glacialtech.com                                                                   |
|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |





## ARCTIC COOLING Accelero X1

★★★★★

£23 inc VAT



A graphics card's tiny fan can produce a lot of noise. Arctic Cooling's Accelero series coolers act as a replacement for the standard heatsinks on modern ATI and Nvidia graphics cards. We tested the Nvidia-compatible X1 version on an Nvidia GeForce 7800GT.

The manual walks you through removing your old VGA cooler and fitting the X1. Installation is just a case of removing the old heatsink and fixing the new one in place.

The X1 is almost three times the width of a standard 7800GT cooler. Depending on your motherboard, the new cooler could take up two PCI slots next to your AGP or PCI Express slot. It's just about narrow enough to use two Accelero-equipped cards in an SLI system.

The heatsink's large surface area made our card run cooler when idle and under load. When idle the temperature dropped from 45°C to 41°C, and when running a benchmark the temperature was 49°C compared to 55°C when using the standard cooler.

This drop in temperature means you could overclock the card further than when using the standard cooler. Our test PC also made far less noise when fitted with the new cooler, as the Accelero's fan was no longer audible over the sound of the other components in the PC.

The Accelero X1 is easy to fit, keeps your graphics card very cool and is excellent value.

### SUMMARY

- ✓ Excellent cooling
- ✓ Good value
- ✗ Very thick

**QUIET GRAPHICS CARD COOLER** Compatible with GeForce 6800, 7800 (7800 PCI Express only), 60mm fan  
SUPPLIER [www.microdirect.co.uk](http://www.microdirect.co.uk)  
DETAILS [www.arctic-cooling.com](http://www.arctic-cooling.com)



## ANTEC P180 Black Super Mid Tower

★★★★★

£116 inc VAT

If air can't flow freely inside your PC's case, the various fans inside will have to work harder to keep everything cool. This will create more noise, so it's worth having a case that helps your PC's cooling. Antec's P180 is designed to cool your PC as effectively as possible.

The P180's exterior looks fantastic and is a refreshing change from the fussy designs of many cases. It feels very well made, but the door covering the front drive bays is slightly flimsy. Sliding the side off the case reveals an odd layout. The power supply mounting is at the bottom. This keeps the hot power supply separate from the other components.

Inside are four 5¼" and six 3½" drives. Two of the 3½" bays are in a caddy in the middle of the case, and four are in a caddy at the bottom. All the screw mounts are equipped with rubber grommets to reduce vibration and noise.

The case is supplied with three 120mm fans. Two are at the top drawing air over the motherboard and one sits between the lower drive caddy and the PSU to cool your hard disks. There are also mountings for optional 120mm fans in front of the middle drive caddy and in an air duct that cools your graphics card.

The P180 may be expensive, but it's a beautifully made case with plenty of room for upgrades and a comprehensive cooling system.

### SUMMARY

- ✓ Well built
- ✓ Fans for every component
- ✗ Expensive

**TOWER CASE** 3x 120mm fans, 4x 5¼" external drive bays, 1x 3½" external drive bay, 6x 3½" internal drive bays, measures 541x206x505mm  
SUPPLIER [www.quietpc.com](http://www.quietpc.com)  
DETAILS [www.antec.com](http://www.antec.com)



## ZALMAN ZM-MFC1 Multi Fan Speed Controller

★★★★★

£26 inc VAT

Keeping your PC cool involves finding a balance between noise and cooling. Having a fan in every mounting will keep the temperature down, but also create an awful racket. Some case fans and CPU coolers come with variable resistors that allow you to adjust their speed, but these are usually at the back of the case or inside it. Zalman's ZM-MFC1 can control the speed of up to six fans, and is conveniently mounted in one of your PC's 5¼" drive bays.

The front of the ZM-MFC1 has four speed control knobs and two switches. You can manually adjust the speed of each fan to get the perfect balance between cooling and noise. Each fan controller has an LED above it that monitors the speed of the fans; the brighter the light, the faster the fan.

Installing the controller is simple enough as the kit comes with all the cables you need to connect up your fans. Two of the cables have an extra lead to connect to your motherboard's processor and case fans so the motherboard can monitor the fans' speeds. Connecting fans to the two toggle switches is trickier, as you have to remove the original plug and connect bare wires to the positive and negative screw terminals. This is annoying, but otherwise the ZM-MFC1 is an inexpensive and useful way to keep fan noise under control.

### SUMMARY

- ✓ Six fan controllers
- ✓ Good value
- ✗ Fitting fans to switches is a pain

**FAN SPEED CONTROLLER** 4x fan speed controls, 2x fan toggle switches  
SUPPLIER [www.quietpc.com](http://www.quietpc.com)  
DETAILS [www.zalman.co.kr](http://www.zalman.co.kr)

## Labs verdict Quiet PC components

Our unique in-PC noise tests reveal that some components have a greater effect on your PC's noise level than others. The most effective way to make your PC quieter is to fit a new power supply. Enermax's Noisetaker 600W is seriously powerful and very quiet, and wins our Best Buy award. If you don't need 600W of power and can stand a little more noise, the Enermax Liberty 500W is a good Budget Buy alternative.

A quiet CPU cooler also makes a big difference. We were particularly impressed with Arctic Cooling's Freezer 7 Pro. It kept our

Pentium 4 processor cool and made barely any noise, so it wins a Best Buy award. The GlacialTech Igloo 7200 Light is also an effective and reasonably quiet AMD cooler, and wins a Budget Buy award.

If you want to replace noisy case fans, we recommend Antec's Tri-Cool fans. Both the 80mm and 120mm models provide an excellent compromise between cooling and noise, and win Best Buy awards. Finally, if you want to keep your graphics card quiet, Arctic Cooling's Accelero X1 is an excellent heatsink replacement, and wins a Best Buy.

### Power Supplies

**BEST BUY** ENERMAX Noisetaker 600W  
★★★★★

**BUDGET BUY** ENERMAX Liberty 500W  
★★★★★

### CPU Coolers

**BEST BUY** ARCTIC COOLING Freezer 7 Pro  
★★★★★

**BUDGET BUY** GLACIALTECH Igloo 7200 Light  
★★★★★

### 80mm Case Fan

**BEST BUY** ANTEC TriCool 80mm  
★★★★★

### 120mm Case Fan

**BEST BUY** ANTEC TriCool 120mm  
★★★★★

### Graphics Card Cooler

**BEST BUY** ARCTIC COOLING Accelero X1  
★★★★★